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Livestock Primary Processing Development for 2010 – 2012

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Report Highlights:

The Ministry of Agriculture's branch target program "Livestock Primary Processing Development for 2010 – 2012" is a comprehensive program focused on the development of livestock primary processing. The program's goals entail achieving import substitution, development of infrastructure and logistical support, and extended product storage life. The overall program cost exceeds RUR 24 billion (\$800 million), including outlays from both the private and public sector. State support is focused on subsidizing interest rates and R&D.

General Information:

The Ministry of Agriculture's branch target program "Livestock Primary Processing Development for 2010 – 2012" is a comprehensive program focused on the development of livestock primary processing. The program's goals entail achieving import substitution, development of infrastructure and logistical support, and extended product storage life. The program's estimated cost exceeds RUR 24 billion (\$800 million), including outlays from both the private and public sector. State support is focused on subsidizing interest rates and R&D. The Ministry of Agriculture approved the program on December 24, 2009.

Russia's meat processing industry has been in disarray since the breakup of the Soviet Union. In the 1990's, several slaughter and livestock processing establishments closed with the onset of decreased state support to agriculture and subsequent smaller herd sizes. As the program reports, roughly 70 percent of Russian slaughter/processing facilities are considered small-scale (producing no more than 30 MT per shift). Furthermore, the majority of newly constructed meat processing facilities does not have killing rooms or production areas for offal processing (by-products), and are not sufficient for producing high-quality commercial meat with extended storage life.

With specific goals in mind, by 2012, the program aims to increase Russia's primary meat processing capacity 420,000 MT as well as increase utilization to at least 90 percent of the animal's live weight and extend storage life of carcasses, half-carcasses, and cuts packed for retail sale to at least 30 days. In 2008, these two indicators were 65 percent and 7 days. Furthermore, the plan foresees the implementation of the program increasing per capita meat consumption from 65.9 kg in 2008 to 66.1 kg in 2012.

An unofficial Embassy translation of the program "Livestock Primary Processing Development for 2010 – 2012" follows. The original Russian version may be found at http://www.mcx.ru/documents/file_document/show/12056.285.htm.

RUSSIAN FEDERATION
MINISTRY OF AGRICULTURE

TARGET BRANCH PROGRAM OF THE GOVERNMENT AGENCY

Livestock Primary Processing Development for 2010 – 2012

Moscow
2009

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Description of the Branch Target Program of the Government Agency “Development of Livestock Primary Processing for 2010 – 2012”

Budget Planning Entity (Chief Controller of Federal Budget Resources)	Ministry of Agriculture of the Russian Federation
Program Name	Livestock Primary Processing Development for 2010 – 2012
Program Goals	<p>Program Goals: Import substitution through the production of domestic commercial meat based on the establishment of advanced livestock slaughter facilities; the development of infrastructure and logistical support; and the expansion of storage life of raw materials and end products.</p> <p>The following tasks must be completed to meet the set goals:</p> <ul style="list-style-type: none"> • to construct new up-to-date livestock primary processing facilities and to enhance capacity of the already operating facilities; • to launch novel slaughter processes and comprehensive processing of livestock and innovative resource-saving technologies and modern energy-efficient harvesting equipment; • to increase dressing percentage - primary product obtained per MT of live weight of slaughter livestock to at least 90%; • to develop additional organizational and economic instruments for increasing operating efficiency of the domestic market of raw meat materials; • to expand the range of manufactured products, increase their storage life to at least 30 days (carcasses, half-carcasses and cuts packed for retail sale); • to increase offal collection and processing (hide, intestinal contents, blood, bone, endocrine enzymatic and special raw materials, etc.) for making various products. • to alleviate the environmental impact. <p>The launch of efficient technologies will maximize the extraction of all useful components from raw materials, turning them into valuable products. Thus, it will increase production profitability and ensure environmental protection against the anthropogenic impact of production.</p>
Target Indicators and Parameters of the Program	<p>Program Indicators:</p> <ul style="list-style-type: none"> • by 2012, to increase livestock slaughter and its primary processing to 420,000 MT of bone-in meat based on innovative resource saving technologies and modern energy-efficient equipment; • to expand storage life of raw materials and end product to at least 30 days; • to increase dressing percentage (primary product obtained per MT of live weight of slaughter livestock) to at least 90%; • to create approximately 4,500 new jobs; • to increase profit of the facilities involved in the program up to RUR 3.5 billion by 2012 with the profitability rate of production of meat and meat products around 10 percent; • to increase labor productivity by 30 percent. <p>Project Selection Criteria:</p> <ul style="list-style-type: none"> • capacity of livestock processing facilities, measured by bone-in meat per year (head per year); • availability of raw material base (livestock production for processing, thousand head per year); • proximity to the areas with active livestock husbandry; • dressing percentage (primary product obtained per MT of live weight of slaughter livestock) to at least 90%;

	<ul style="list-style-type: none"> • project profitability level; • without subsidies taken into consideration • with subsidies taken into consideration • ratio of additional fixed assets to attracted investment loans • storage life of raw materials and products; • investor participation in project implementation; • co-funding of projects on livestock primary processing by the Russian Federation (RF) constituents (assignment of land; support of production infrastructure: access roads, gas, water, electricity and waste treatment facilities) and potential exemption from taxes on property; • compliance with the requirements for equipment leasing.
Characteristics of the Program Actions	<p>Scientific and Technical, Legal and Administrative Support comprises the following actions:</p> <ul style="list-style-type: none"> • to analyze the cost-effectiveness of current meat industry facilities and to conduct an evaluation for selecting projects on constructing new modern livestock slaughter facilities and increasing capacity of those in operation according to the established criteria; • to supply equipment under leasing conditions to livestock primary processing facilities; • to carry out R&D in such areas as processing of raw offal; development of production processes for making new package materials with antibacterial properties; • to compensate interest rates of investment loans received from the Russian credit organizations (by agricultural commodity producers) for constructing new livestock primary processing facilities and increasing capacity of those in operation. <p>Implementation of Pilot Projects includes the following actions:</p> <ul style="list-style-type: none"> • to develop draft business plans; • to implement projects on constructing large modern livestock primary processing facilities and increasing capacity of those in operation, utilizing investor's own resources and attracted loans.
Program Implementation Period	2010 – 2012
Funding Amounts and Sources	<p>The total amount of funding for the overall period of program implementation is RUR 24,019.2 million, including:</p> <ol style="list-style-type: none"> 1. Leased equipment purchases – RUR 7,500M, including by year: <ul style="list-style-type: none"> • 2011 – RUR 7,500M 2. Borrowed funds – RUR 11,260M, including by year: <ul style="list-style-type: none"> • 2010 – RUR 2,300M; • 2011 – RUR 4,250M; • 2012 – RUR 4,710M. 3. Subsidies for partial compensation of loan interest payments – RUR 1247.2M, including by year: <ul style="list-style-type: none"> • 2010 – RUR 184M; • 2011 – RUR 524M; • 2012 – RUR 539.2M. 4. Private and regional government funds – RUR 4,000M, including by year: <ul style="list-style-type: none"> • 2010 – RUR 2,500M; • 2011 – RUR 750M; • 2012 – RUR 750M. 5. R&D – RUR 12M, including by year: <ul style="list-style-type: none"> • 2010 – RUR 2M; • 2011 – RUR 7M; • 2012 – RUR 3M; <p>Note: The provision of resources for the government agency's branch program "The Development of Livestock</p>

Program Deliverables and Indicators of Social and Economic Effectiveness	<p>Primary Processing for 2010-2012” will be updated in line with the budgeting process.</p> <p>In 2012, the implementation of the proposed program will produce the following results:</p> <ul style="list-style-type: none"> • in the regions with active animal husbandry, the production of bone-in meat will be brought to 1,645,000 MT, including 387,900 MT from cattle and 1,257,100 MT from swine; • livestock slaughter and primary processing capacity will grow to 420,000 MT of bone-in meat; • per capita consumption of meat and meat products will increase to 66.1 kg by 2012 in effort of achieving the recommended consumption rate of 70 kg (<i>Institute of Nutrition</i>) (65.9 kg in 2008); • storage life of raw materials and final products will be expanded (to at least 30 days); • increase dressing percentage (primary product obtained per MT of live weight of slaughter livestock) to at least 90%; • increase profit gain RUR 3.5 billion; • increase labor productivity at least 30%; • creation of approximately 4,500 additional jobs. <p>The implementation of the program on constructing new, modern livestock slaughter facilities and increasing capacity of the operating ones will set up conditions for import substitution; infrastructure and logistics support development; expansion of storage life of raw materials and end products; and higher efficiency of industrial processing of raw materials obtained from animal husbandry.</p>
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Section 1. Problem Overview

The development of the meat production sub-complex of the Agro-Industrial Complex (AIC) requires the immediate handling of multiple tasks. They are aimed at achieving innovative and technological revitalization of the production and implementation of investment programs, both in animal husbandry and in livestock primary processing.

One of the factors impeding rapid development of the domestic beef husbandry is the lack of up-to-date livestock slaughter and primary processing facilities. The existing capacity is not sufficient for production of high-quality commercial meat with extended storage life. This situation facilitates imports of meat in large quantities.

Import substitution and the creation of additional jobs through increased meat production in modern livestock slaughter enterprises will promote competition in the domestic meat market. According to experts, major livestock primary processing enterprises should be built in a number of Russian regions and have an overall capacity of approximately 7 million head. In order to intensify production of commercial meat and to foster primary processing of livestock, offal, and rendering products in modern high-tech facilities, it is necessary to launch additional capacities totaling 420,000 MT of bone-in meat. The overall program cost, based on current prices, will exceed RUR 24 billion. As a result of the program implementation, approximately 4,500 jobs will be created and additional taxes received for budgets of all levels.

Location and optimal capacity of meat processors as well as organizational structure of production facilities should be assessed in line with the availability of raw material sources, market infrastructure (special systems for raw material supplies, product storage and sales), and market outlets.

Over the last several years, the Russian meat market has undergone crucial changes. However, the current stage of industry development is characterized by unplanned processes. New livestock primary processing facilities and enterprises are constructed without consideration of significant factors. The factors include the availability of raw material base; the density of raw material resources in regions; or the community requirements for meat and meat products. The condition of operating production facilities is not taken into account.

In 2008, the live weight of all three livestock species (cattle, swine, and small ruminants – sheep and goats) sold for slaughter was 6.1 million MT, 4.9 percent higher in comparison with 2007. Swine production had the highest growth of 7.2 percent. Cattle rose by 3.1 percent and small ruminants was 3.5 percent.

The largest volumes of livestock sales are reported in the Volga (30.5%), Southern (21.5%), Central (19.0%), and the Siberian Federal Districts (17.8%). The North-Western, Ural, and Far Eastern Federal Districts together account only for 11.2%. The review of sales structure by livestock species demonstrates that the cattle to swine ratio is 53.5 percent and 46.5 percent, respectively, in all regions, except the Central District, in which the rate of swine primary processing is slightly higher. The increase of sales in 2008 over 2007 was underlain by the growth in the Central (8.2%), Southern (8.9%), and Ural Districts (5.9%).

In 2008, swine sales for slaughter showed growth in all regions compared to 2007. The highest gain was achieved in the Central and Southern Districts: 23.3 and 15.4 percent. Cattle supplies for slaughter declined in almost all regions, except the Southern (3.4%) and Ural Districts (1.2%) which showed growth.

Small ruminant primary processing rates are not high. However, numbers of head increased slightly in all regions: 11.9 percent growth in the Central District, 8.8 percent in the Volga District, and, on average, 3 percent in the Siberian and Ural Districts. Numbers declined only in the Far Eastern District.

Analysis of all livestock supplies for primary processing from different types of animal husbandry facilities shows most livestock is delivered from private households at 60.9 percent, while agricultural enterprises provide 35.1 percent. Such proportion prevails almost in all regions, except the North Western District, in which swine supplies from private households are half those from agricultural enterprises. Private farms underperformed expectations and supplied only 4.0 percent of the overall livestock supplied for slaughter.

Cattle supplies in the Central District are split almost equally between agricultural enterprises and private households (47.8 percent and 49.9 percent). Facilities in the North Western District receive 61.0 percent of cattle for slaughter from agricultural enterprises. However, in all other regions, except the North Western District, private households are leaders in cattle supply for slaughter; their share ranges from 61.2 percent to 75.5 percent.

The breakup of pig supplies for primary processing by region is very similar to the data reviewed for cattle. In the Central District, agricultural enterprises and private households supply almost the same numbers of pigs for slaughter at 51.2 percent and 46.4 percent. In the North Western District almost 70 percent of swine is provided by large agricultural enterprises, while in other regions private households have larger swine stock for primary processing, and their supplies range between 57.5 percent and 65.8 percent.

Private farms accounted for a very low percentage of cattle and swine supplies for slaughter: in Russia, as a whole and in individual regions, their shares in supplies vary between 3-5 percent. The only exception is the Far Eastern District where this index is higher (6.8 - 14.3 percent).

Private households account for 60 percent of the aggregate pig supplies in Russia. However, in Belgorod Oblast (located in the Central District), 85.6 percent of pigs were supplied for slaughter by agricultural enterprises. In all oblasts of the North Western District, the majority of supplied pigs originate from agricultural enterprises, except the Republic of Karelia, in which private households supplied almost 70 percent of swine. In the Volga Federal District only four regions (Republic of Tatarstan, Udmurt Republic, Perm Territory, and Nizhny Novgorod Oblast) receive most swine from agricultural enterprises. In all other regions, private households still dominate pig supplies.

The aggregate share of small ruminants supplied for slaughter is slightly more than 6 percent of all livestock processed in Russia. Almost all small ruminants are supplied by private households. Throughout Russia most small ruminants are supplied for slaughter by private households (81.1 percent), and in some of the regions the share of private households exceeds 90 percent. The review of small ruminant supplies has demonstrated that the situation is similar in all RF regions.

Analysis of the structure of aggregate livestock (cattle, swine, and small ruminants) supplies by facility category shows that the largest share of agricultural enterprises exists in the Volga (30.0 percent) and Central (26.1 percent) Federal Districts. The largest share of private household supplies exist in Volga (31.2 percent) and Southern (24.3 percent) Federal Districts. The largest share of private farms and individual entrepreneurs exist in the Southern (34.9 percent) and Volga (23.3 percent) Federal Districts. *[Note: Shares do not add up to 100.0 percent.]*

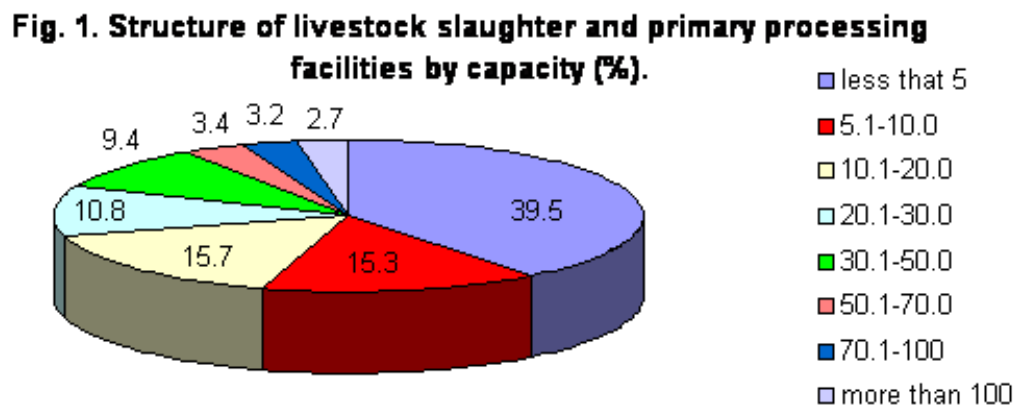
Production concentration in the meat industry is tied to the size of the raw material base and the level of optimal facility

capacity. In accordance with the generally accepted industrial standards, facilities are divided into large, medium, and small-scale businesses. Small-scale facilities are those which have meat capacity of up to 30 MT per shift; medium-scale can produce 30-100 MT, and large-scale generate above 100 MT.

Small-scale facilities can improve profitability by reducing livestock transportation costs and minimizing livestock weight losses. The benefits of concentrated production include lower capital investments per unit and livestock processing savings.

New slaughter facilities that can maintain meat production of 1 MT/m², 3 MT/m², and 5 MT/m², will reach a per shift capacity at 30-50 MT, 100-150 MT, and 100-200 MT, respectively. The share of these facilities in Russia is 81.3 percent, 16 percent, and 2.7 percent, respectively.

The structure of the Russia's slaughter and livestock primary processing facilities by capacity (MT per shift) is shown in Fig. 1.



Feasibility studies of construction projects of livestock primary processing facilities in Russian regions should be linked to the index of raw material density per square-meter (see Table 1).

Table 1. Raw Material Density of the Meat Industry, by Federal Districts, in 2008

Federal Districts	Total livestock resources, 1,000 MT of live weight (cattle, swine, small ruminants)	District area, thousand km ²	Density of raw materials, MT/km ²
Central	1,220.4	650.7	1.88
North-Western	205.2	1,677.9	0.12
Southern	1,305.7	589.2	2.22
Volga	1,837.3	1,038.0	1.77
Ural	379.2	1,788.9	0.21
Siberian	1,110.8	5,114.8	0.22
Far Eastern	97.9	6,215.9	0.02
Total:	6,156.5	17,075.4	0.36

Based on raw material density, the Central (1.88), Southern (2.22), and Volga (1.77) Districts are considered the most attractive for constructing modern, high-tech livestock slaughter and primary processing facilities. The selection of optimal production capacity for facilities manufacturing meat and meat products (sausage, semi-finished products, ready-to-eat meat, and canned products) should be governed by the availability of such factors as:

- investment resources for setting up a raw material base and construct livestock primary processing facilities;
- roads, utility pipelines, and power-supply sources;
- human resources and product sales outlets.

The current situation in the development of the animal husbandry sector of the Agro-Industrial Complex is characterized by the deficiency of slaughter and primary processing facilities with a growing raw material base.

In the 1990's, the existing capacity was not fully used due to the scarcity of domestic raw materials and the growth of meat imports. Thus, multiple slaughter and livestock primary processing establishments were closed. The vast majority of newly constructed meat processing facilities have neither killing rooms, nor production areas for offal processing (blood, hide and raw fat, intestinal contents, endocrine enzymatic and special raw materials, rendering, etc.). Most of the operating slaughter, primary processing, and offal processing facilities have domestic equipment over 10 years old and cold storage equipment wear and tear has reached 70-80 percent. One of the main mechanisms of increasing productivity is offal collection, utilization, and sales.

The diversification of primary livestock processing facilities has adjusted to the rapidly changing environment of the global meat markets. It also facilitates increased competitiveness of manufactured products used for filling the domestic meat market and reaching food self-sufficiency in Russia.

This goal could be achieved through the construction of new modern facilities and upgrading current livestock primary processing facilities (for all livestock species). Planned implementation of the program will ensure conditions for complete, comprehensive, and efficient collection, including the use of offal (by-products), which represent almost half the weight of slaughtered animals.

Modern facility operations will satisfy the requirements of multiple industries which need full-value domestic raw materials. In particular, the collection of endocrine enzymatic and special raw materials will revitalize the production of domestic medications. Intestinal materials are needed for medical, food, and consumer industries; hides will be used by such domestic industries as leather and consumer goods, footwear, and fur industries.

Effective organization of marketing is one of the key conditions required for the successful operation of meat industry facilities.

Usually, sales of meat products are limited by the production area and adjacent regions. To expand product sale areas, it is necessary to have a well-established network of transportation and logistic companies providing professional services in the meat market.

The production process in the meat primary processing industry ends up with obtaining main raw materials (1st category meat and by-products), offal, and rendering products. Currently, around 70 percent of live weight is used fully during livestock primary processing. However, properly organized establishments are capable to process effectively 100 percent of all types of raw materials. In this context, it is essential to consider construction of new livestock slaughter facilities and increase capacity of the operating facilities which would be integrated with large animal husbandry enterprises.

Section 2. Program Goals and Tasks

The program goals include import substitution through the production of domestic commercial meat, based on establishing advanced livestock slaughter facilities; the development of infrastructure and logistical support; and the expansion of storage life of raw materials and end products. The following tasks must be completed to meet the set goals:

- to construct new up-to-date livestock primary processing facilities and to enhance capacity of the already operating facilities;
- to launch novel slaughter processes and comprehensive processing of livestock and innovative resource-saving technologies and modern energy-efficient harvesting equipment;
- to increase dressing percentage (primary product obtained per MT of live weight of slaughter livestock) to at least 90%;
- to increase offal collection and processing (hide, intestinal contents, blood, bone, endocrine enzymatic and special raw materials, etc.) for making various products;
- to develop additional organizational and economic instruments for increasing operating efficiency of the domestic market of raw meat materials;
- to expand the range of manufactured products, increase their storage life to at least 30 days (carcasses, half-carcasses and cuts packed for retail sale).

The launch of modern technologies will maximize the extraction of all useful components from raw materials, turning them into valuable products. Thus, it will increase production profitability and ensure environmental protection against anthropogenic impact.

Section 3. Expected Results and Target Indicators

The program plans to construct large, modern livestock primary processing facilities, as well as upgrade those operating. Its implementation will achieve the following results by 2012:

- to increase the production of bone-in meat to 1,645,000 MT, including beef – 387,900 MT and pork – 1,257,100 MT in regions with active animal husbandry;
- to increase livestock slaughter and primary processing capacity to 420,000 MT of bone-in meat;
- to increase per capita consumption of meat and meat products will increase to 66.1 kg by 2012 in effort of achieving the recommended consumption rate of 70 kg (*Institute of Nutrition*) (65.9 kg in 2008);
- to expand life storage of raw materials and end products (at least 30 days);
- to increase dressing percentage (primary product obtained per MT of live weight of slaughter livestock) to at least 90%;
- to increase profit gain RUR 3.5 billion;
- to increase labor productivity at least 30 percent;
- to create approximately 4,500 additional jobs.

Project selection criteria:

- capacity of livestock processing facilities, measured by bone-in meat per year (head per year);
- availability of raw material base (livestock production for processing, head per year);
- proximity to active animal husbandry areas;
- dressing percentage (primary product obtained per MT of live weight of slaughter livestock) to at least 90%;
- project profitability level: without subsidies taken into consideration and with subsidies taken into consideration;
- ratio of additional fixed assets to attracted investment loans
- storage life of raw materials and products;
- investor participation in project implementation;
- co-funding of livestock primary processing projects by the RF constituents (assignment of land; support of production infrastructure: access roads, gas, water, electricity and waste treatment facilities) and potential property tax exemption;
- compliance with the requirements for equipment leasing.

State subsidies for the establishment of a modern livestock primary processing base will increase the amount of domestic meat products in the market. The reduction of meat product imports will encourage necessary economic conditions for domestic production development. Attainable target indicators supported by state subsidies are given in Table 2.

Table 2. Key Target Program Indicators Supported by the State Budget

Target Indicators	Indicator Values			
	2008	2010	2011	2012
Per capita consumption of meat and meat products, kg	65.9	65	65.3	66.1
Increase of livestock slaughter capacity, 1,000 MT				420
Dressing percentage (primary product obtained per MT of live weight of slaughter livestock), %	65	-	-	90
Increase of product storage life, days	7.0			30.0
Creation of additional jobs, 1,000 persons	-	-	-	4.5
Production profitability, %	3.0	-	-	10.0
Increase of labor productivity, %	-	-	-	30.0

Equipment under the leasing conditions will be purchased for RUR 7.5 billion. This advanced equipment will be installed at livestock primary processing facilities to ensure a comprehensive utilization of all raw material components.

The newly constructed and the renovated livestock primary processing facilities will increase returns and gain profit of RUR

3.5 billion to be used for expanded reproduction. Progress of this effort will be linked to R&D aimed at introducing comprehensive offal processing and technologies for the production of novel packaging materials with antibacterial properties.

List of R&D Topics within “Livestock Primary Processing Development for 2010-2012”

Topic	R&D cost, RUR mln.	Funding from federal budget, RUR mln.			Effectiveness indices
		2010	2011	2012	
1. Develop an efficient flow chart of comprehensive offal processing	7.0	-	4.0	3.0	Increase offal processing from 50% to 90%
2. Develop production technologies for making antibacterial properties materials with nano-composites and biocide supplements for meat packing and storage.	5.0	2.0	3.0	-	Development of a technology to produce packages with antibacterial properties and increase chilled meat storage life to 30 days
R&D, total:	12.0	2.0	7.0	3.0	

Section 4. List and Description of Program Activities

Scientific-technical, legal, and administrative support of the program include the following activities:

- analyze the cost-effectiveness of current meat industry facilities and conduct a tender for selecting projects on constructing new modern livestock slaughter facilities and increasing capacity of those in operation, according to the established criteria;
- supply leased equipment to livestock primary processing facilities;
- carry out R&D in such areas as comprehensive processing of offal and production processes for making new package materials with antibacterial properties;
- compensate interest rates of the investment loans received from Russian credit organizations (by agricultural commodity producers) for constructing new livestock primary processing facilities and increasing capacity of those in operation.

Implementation of pilot projects includes the following activities:

- develop draft business plans;
- implement projects on constructing large modern livestock primary processing facilities and increasing capacity of those in operation, utilizing the investor's own resources and attracted loans.

Section 5. Required Resources and Rationale

The total funding for the overall period of program implementation is RUR 24.0192 billion, based on current prices:

	2010, RuR mln.	2011, RuR mln.	2012, RuR mln.	Total, RuR mln.
Purchasing equipment under leasing conditions	-	7,500.0	-	7,500.0
Borrowed funds	2,300.0	4,250.0	4,710.0	11,260.0
Subsidies for partial compensation of loan interest payments	184.0	524.0	539.2	1,247.2
Internal funds and regional budgets	2,500.0	750.0	750.0	4,000.0
R&D	2.0	7.0	3.0	12.0
Required Resources, total:	4,986.0	13,031.0	6,002.2	24,019.2

Funds will be allocated for the development of the offal processing program and the design for making innovative packaging materials with antibacterial properties.

Note: the provision of resources for the branch target program “The Development of Livestock Primary Processing for 2010-2012” will be updated in line with the budgeting process for respective years.

Section 6. Program Terms and Milestones

The period of implementation of the branch target program “Development of Livestock Primary Processing” is 2010-2012. Top priorities include state incentives to boost livestock primary processing and to establish a favorable environment for the

domestic commercial meat and meat products. R&D activities will be performed within the program work schedule.

Program Milestone I: 2010

- To conduct an evaluation for selecting projects on constructing new modern livestock slaughter facilities and increasing capacity of those in operation with the aggregate capacity 420,000 MT of chilled bone-in meat; modern equipment and innovative processes.
 - To allocate RUR 2 million for the development of technologies for making package materials with antibacterial properties.
 - To raise borrowed funds in the amount of RUR 2.3 billion for the construction of main and supporting operations of livestock primary processing facilities.
 - To invest internal funds in the development and coordination of the design and documentation, and obtaining approvals for the connection to electric mains and other operations associated with construction work. To use regional budgets for co-funding projects on new livestock processing facilities and renovating those in operation:
 - allocation of land;
 - production infrastructure (access roads, gas, water and electricity supply and waste treatment system)
- Total: RUR 2.5 billion.

Program Milestone II: 2011

- To use state subsidies RUR 7,500 million for purchasing modern equipment for livestock primary processing facilities under the leasing conditions.
- To allocate RUR 7 million for R&D on production technologies for making package materials with antibacterial properties and efficient flow chart of comprehensive offal processing.
- To attract borrowed funds RUR 4,250 million for on-going construction work and initiating new projects.
- To invest internal funds in on-going construction work and to attract regional budgets for co-funding infrastructure projects on constructing new and upgrading operating livestock primary processing facilities. Total: RUR 750 million.

Program Milestone III: 2012

- To allocate RUR 3 million for R&D on efficient flow chart for comprehensive offal processing.
- To attract borrowed funds RUR 4,710 million for completing construction of livestock primary processing facilities.
- To invest internal funds in facilities construction completion and to attract regional budgets: RUR 750 million.
- To fulfill the program and to put into operation livestock primary processing facilities with the aggregate capacity of 420,000 MT of bone-in meat.

Section 7. Description of Social, Economic, and Environmental Effects of Program Implementation

Section 7.1 Social, Economic, and Environmental Effects of Program Implementation

The achievement of the program goals will create economic conditions for stimulating beef husbandry development. This will further the promotion of the meat industry, improve its earning power, reduce the share of imports in the market, and increase the share of domestic raw meat materials sourced for meat and meat products. The program is targeted to develop domestic agricultural production and to attain reliable food supply for the nation. The program includes the renewal of the meat industry base using innovative technologies.

The implementation of the “Program for Development of Livestock Primary Processing Enterprises” will enhance effectiveness of industrial processing of raw materials produced by animal husbandry and ensure sustainability of the domestic meat market. Import substitution through commercial meat production will support realistic pre-requisites for improving meat product supplies to the population and stabilizing market environment.

The introduction of efficient construction processes of livestock primary processing facilities will ensure sound management of material resources, environmental protection, and 5-7 percent less water consumption. Processing raw fat materials and turning them into bio-products (farm animal feed, biogas, and liquid and solid biofuel) will help to resolve waste disposal problems through the commercialization process, and thus, bring additional revenues to facilities.

Section 7.2 Risk Assessment of Program Implementation

The achievement of the program indicators is associated with certain risks linked to the financial and economic crisis within the agricultural food market and foreign economic area (see Table 3).

Table 3

Type of Risk	Risk Description	Risk Assessment/ Significance	Anticipated consequences
Extrinsic (exogenous) risks			
1. Risks posed by unstable economic situation in the country	Signs of crisis in the financial field (non-payments, non-provision of loans, high loan interest rates)	Moderate/ high	Failure to complete some of the program activities; failure to achieve the set goals
2. Risks arising from market situation fluctuations	Price changes for raw materials and utilities; demand fluctuations. Public income decline.	Moderate/ medium	Reduced sales volumes, difficulties with loan repayments
3. Risks produced by changes in foreign economic situation	Quota and customs duty variations	Moderate/ high	Increase (decrease) of imports, competition growth
Intrinsic (exogenous) risks			
4. Program funding (liquidity) risks	Interrupted program implementation due to a lack of funds	Moderate/ high	Failure to complete some of the program steps; failure to achieve the set goals
5. Risks at the stage of project development	Data incompleteness and inaccuracy at the stage of development of investment projects errors in design and estimate documentation	Moderate/ medium	Inaccurate description of the program actions and goals
6. Risks at the stage of facility commissioning	Poor management, delayed supplies of construction materials and equipment; incompliance with the work schedule	Moderate/ high	Some of the program activities are delayed or failed
7. Operating risks (at the stage of product manufacture and sales)	Raw material deficiency or poor quality; impairment of end product quality; wrong marketing strategy and reduced labor productivity	Moderate/ medium	Low effectiveness of activities; deterioration of finance indicators; sales reduction

Section 8. Program Efficiency Evaluation

To evaluate program implementation efficiency, it is advisable to perform monitoring of compliance with the investment project selection criteria. In addition, it is recommended to trace progress in the achievement of target indicators and to review expenditures of the program funds by year:

- share of applicant's own funds;
- compliance with the equipment leasing requirements;
- co-funding of livestock primary processing projects from regional budgets;
- growth of the aggregate capacity of livestock primary processing,
- output of bone-in meat.

The efficiency of spending budget funds should be reviewed annually throughout the program implementation period.

Section 9. Methods on Program Efficiency Evaluation

Quantitative method:

Evaluation is based on the review of departmental reporting forms approved by order of the RF Ministry of Agriculture.

Qualitative method:

Evaluation is based on the achievement of planned values and target indicators. The following indices will be used to estimate efficiency of spending budget funds:

- slaughter and livestock primary processing by animal species;

- bone-in meat output;
- growth of livestock primary processing capacity;
- dressing percentage (primary product obtained per ton of live weight of slaughter livestock);
- share of innovative technologies in the slaughter and processing of livestock products;
- revenues from sales of slaughtered and processed livestock products.

The efficiency of spending budget funds allocated for the program will be calculated by the formula: $E = P/S \times 100\%$, where:

E – efficiency of spending budget funds;

P – profit from product sales within the program;

S – sum of expenditures from federal budget funds allocated for the program.

Section 10. System of Program Management

The branch target program “Livestock Primary Processing Development for 2010 – 2012” is a comprehensive program focused on the development of livestock primary processing. The program encompasses funding issues and end results as well as federal and regional tasks. Integrated management of the program will be provided by a budget planning entity, the Ministry of Agriculture of the Russian Federation.

Program management system:

- The Department of Food, Processing Industry and Regulation of Agri-Food Market and Product Quality is responsible for the overall program implementation and the achievement of program goals, tasks, target indicators, parameters and activities; they will coordinate interaction between departments of the RF Ministry of Agriculture and provide guidance in program implementation as well as conduct monitoring of program implementation;
- The AIC management team, involved in the program actions, is responsible for achieving target indicators at the regional level;
- The competitive selection of regional project proposals on livestock primary processing will be conducted by the Ministry of Agriculture based on bids submitted by Russian constituents in accordance with the “Guidelines on the Preparation of Valuable Economic Programs for Agriculture Development in the Constituents of the Russian Federation”;
- the Department of Science and Technology Policy and Education will be responsible for scientific management and consulting support for agricultural commodity producers;
- The Department of Economy and Finance will provide financing for program activities and is responsible for developing a system of program progress reporting.